SEVERE LOCAL STORMS, JUNE, 1930—Continued

Place	Date	Time	Width of path (yards)	Loss of life	Value of property destroyed	Character of storm	Remarks	Authority
Anne Arundel and Baltimore Counties, Md.	26					Electrical and wind.	Telephone and railroad signals thrown out of commission; buildings damaged or wrecked; trees uprooted.	Official, U. S. Weather Bureau.
Bridgeport, Pa.	26	P. m.	440			Probably tornado.	Over 50 buildings unroofed.	Do.
Dauphin and Cumberland Counties, Pa.	26	do.		1		Wind, hail, and electrical.	Several barns and other buildings wrecked; many tobacco sheds unroofed.	Do.
Lewis County, Idaho	27	3 p. m.	2 mi.		$125,000	Hail.	Damage confined to crops, chiefly wheat.	Do.
Meade County, Kans.	27	4:15 p. m.	5 mi.		200,000	do.	Heavy wheat damage; path 9 miles long.	Do.
Ford County, Kans.	27	5–6 p. m.	1–5 mi.		175,000	do.	Chief damage to wheat; poultry and animals injured; path 25 miles long.	Do.
Abbeville and Youngsville, La.	27	5:40 p. m.			4,700	do.	Cotton and corn stripped; auto tops and windows pierced.	Do.
Dill City, Okla.	27	9 p. m.	4 mi.		45,000	do.	Damage chiefly to crops.	Do.
Oldham, S. Dak.	28	8:30 p. m.	5 mi.		15,000	do.	Crops suffered.	Do.
Erwin, S. Dak.	29	1 a. m.	880–1,760		4,000	do.	do.	Do.
Winnebago, Waupaca, Calumet, and Manitowoc Counties, Wis.	29	6–7:30 p. m.		1	110,000	Wind and thunderstorm.	Many farm buildings damaged; some loss of crops.	Do.
Black Hawk, Bremer, Buchanan, Fremont, Hamilton, Howard and Winneshiek Counties, Iowa.	29				60,000	Wind and hail.	Crops injured; buildings damaged.	Do.
Mason to Wexford Counties, Mich.	29–30		135–200			Tornado.	City and rural property damaged; Cadillac suffered greatest losses; path 55 miles.	Do.
Fremont County, Iowa	30	8:45 p. m.			4,000	Wind and hail.	Crops injured.	Do.
Mount Carroll and Granville, Ill.	30					Hail.	Buildings and crops damaged.	Do.

RIVERS AND FLOODS

By R. E. SPENCER

In the May, 1930, issue of this REVIEW it was stated that the only important damage done by the Arkansas and White River rises of that month was to prospective crops. A belated report of losses resulting from these floods gives the complete figures as follows:

	Black and White Rivers	Arkansas River
Tangible property	$10,000	$1,150
Prospective crops	8,500	35,000
Livestock	10	
Suspension of business		2,000
Total reported loss	56,660	
Value of property saved through Weather Bureau warnings	25,000	

Effects of the flood continuing from May in the Tallahatchie Basin appear in the table below. The overflow data are drawn largely from the results of a survey made by the Vicksburg, Miss., office of the Mississippi River Commission. No loss of life, or livestock or other movable property was reported.

County	Acres overflowed	Losses					
		Planting (actual loss)	Crops (prospective value)	Highways	Buildings	Land	Levees
Panola	[1] 950	Cotton, $1,400					$500
	[2] 1,850	Corn, $250					
Quitman	[1] 800	Cotton, $1,300					
	[2] 1,500	Corn, $150					
Tallahatchie	[1] 11,400	Cotton, $26,640					
	[2] 25,800	Corn, $2,360					
		Hay, $23,500					
Sunflower	[1] 4,000	Cotton, $12,000					
	[2] 8,000	Corn, $800					
		Hay, $7,500					
LeFlore	[1] 22,580	Cotton, $86,300	$280,000	$3,000			300
	[2] 28,820	Corn, $9,100	10,000				
		Hay, $19,725	34,000				
Grenada	[1] 2,500	Cotton, $7,000					
	[2] 4,500	Corn, $700					
		Hay, $7,000					
Carroll [3]	[1] 3,070	Cotton, $11,100	46,930	7,500	$1,500	$20,000	1,000
	[2] 3,760	Corn, $2,400	3,000				

[1] Improved land.
[2] Unimproved land.
[3] A large percentage of the damage in Carroll County was caused by breaks in the Palucia Creek levee. One break caused the covering of 200 acres with sand a foot deep. A sand bar formed below the largest of the breaks diverted the creek water across the Greenwood-Carrollton Highway near the Carroll-LeFlore County line, destroying the highway for a distance of a mile.

Relative to the flood in the Skunk, Des Moines, and Mississippi Rivers, the official in charge of the Weather Bureau office at Hannibal, Mo., reports as follows:

Excessively heavy rains in the Des Moines and Skunk Valleys in Iowa, on June 14 and 15, caused a severe flood in the Skunk River and slight flood conditions in the lower Des Moines, and the Mississippi as far south as Louisiana, Mo. The Skunk River was the highest ever known at Augusta, and the damage to growing crops was considerable. In the Des Moines and Mississippi Valleys the damage was not heavy, having been limited to the destruction of some small areas of crops in the low bottom lands and outside levees. All livestock had to be moved from island pastures.

Losses caused by this rise amounted to $5,000 in tangible property and $10,000 in prospective crops. Property worth about $10,000 was saved through the use of Weather Bureau warnings.

Except for slight losses (about $500) in the upper Smoky Hill River rise, damage from overflow along streams in the central United States upon which Weather Bureau gages are maintained was negligible. However, in Iowa (notably the southeastern quarter) and in Marathon County, Wis., between two and three million dollars damage was done to highways, bridges, and culverts by violently destructive rises in small streams—a usual result of heavy and concentrated summer-time rains.

The West Gulf Drainage floods, in most cases continuations from May, were discussed as necessary in the Review for that month, excepting the one in the Rio Grande following June 12. This rise did some slight damage to crops between the river and the levee in Cameron County, Tex.; and warnings were of considerable value in aiding levee protection work.

The Pacific Drainage floods were without important result.

Losses resulting from the lower Red River flood of May and June have not yet been reported.

[All dates in June unless otherwise specified]

River and station	Flood stage	Above flood stages—dates		Crest		
		From—	To—	State	Date	
EAST GULF DRAINAGE						
	Feet			Feet		
Tombigbee: Lock No. 4, Demopolis, Ala.	39	(1)	3	54.3	May	28
Pearl: Jackson, Miss.	20	(1)	4	31.9	May	28
West Pearl: Pearl River, La.	13	(1)	12	15.4	May	24

[1] Continued from last month.

[All dates in June unless otherwise specified]

River and station	Flood stage	Above flood stages—dates		Crest	
		From—	To—	State	Date
MISSISSIPPI DRAINAGE					
Mississippi:	*Feet*			*Feet*	
Keokuk, Iowa	14	18	18	14.0	18
Quincy, Ill	14	17	20	15.7	19
Hannibal, Mo	13	17	21	15.5	19
Louisiana, Mo	12	18	21	13.9	20
Wisconsin: Knowlton, Wis	12	15	16	15.5	15
Skunk: Augusta, Iowa	15	15	19	22.55	17
Des Moines:					
Tracy, Iowa	15	17	17	15.5	17
Ottumwa, Iowa	10	16	17	10.4	17
Smoky Hill: Lindsborg, Kans	21	7	7	23.6	7
Republican: Concordia, Kans	8	6	6	8.5	6
Osage: Osceola, Mo	20	16	17	20.6	16
Neosho:					
Oswego, Kans	17	12	12	18.4	12
Fort Gibson, Okla	22	17	17	22.0	17
Canadian: Logan, N. Mex	4			6.8	4
				5.0	8
				5.0	11
				5.0	18
North Canadian: Woodward, Okla	4	6	7	4.6	7
Tallahatchie: Swan Lake, Miss	25	(1)	13	30.3	May 29-30
Red: Alexandria, La	36	(1)	13	41.2	5-6
Ouachita: Monroe, La	40	2	11	40.6	6-7
WEST GULF DRAINAGE					
Sabine: Logansport, La	25	(1)	11	34.1	May 28-29
Trinity:					
Long Lake, Tex	40	(1)	2	46.7	May 23
Riverside, Tex	40	(1)	2	45.8	May 29
Liberty, Tex	25	(1)	14	27.9	3-5
Guadalupe: Victoria, Tex	16	20	20	16.3	20
Rio Grande:					
San Marcial, N. Mex	3	2	4	3.1	2
Riogrande, Tex	21	13	14	23.0	13
San Benito, Tex	23	(1)	2	23.6	2
		13	19	24.9	15
Brownsville, Tex	18	2	3	18.3	3
		14	16	18.4	14-15
PACIFIC DRAINAGE					
Colorado: Parker, Ariz	7	(1)	(2)	10.5	7, 17-20
Colorado, Roaring Fork: Carbondale, Colo	5	12	14	5.5	13
Gunnison: Delta, Colo	9	(1)	1	9.3	May 31
		13	13	9.0	13
Columbia: Marcus, Wash	24	12	18	24.4	14-15

[1] Continued from last month. [2] Continued at end of month.

EFFECT OF WEATHER ON CROPS AND FARMING OPERATIONS, JUNE, 1930

By J. B. KINCER

General summary.—During the first decade temperatures, notably at night, were too cool for best growth of vegetation rather generally east of the Rocky Mountains, especially for warm-weather crops such as corn and cotton. Some interruption to farm work was reported, but seasonal operations made generally good advance. Showers and locally generous rains afforded temporary relief in the formerly dry Atlantic area, but rainfall continued deficient over a considerable part of the interior, including West Virginia, most of Ohio, much of Kentucky and Tennessee, the eastern third of Missouri, and the southern portions of Illinois and Indiana.

During the second decade droughty conditions continued in the eastern and lower Ohio Valley and many south-central parts of the country, while the western half was practically rainless. Heavy to excessive rains in the lower Missouri and upper Mississippi Valleys and in parts of the Southwest were detrimental to outside operations, but in local areas the additional moisture was of great benefit. High temperatures locally served to intensify the droughty conditions, especially in Kentucky, while high, drying winds were reported from many districts of the Northwest.

During the last decade showers were helpful in many places in the Ohio Valley, but most upper-valley districts were still dry, with a good rain needed in many south-central sections of the country. Farm work made generally good advance, with very little interruption from rainfall; wheat harvest progressed northward to the central portions of Indiana, north-central Missouri, and in eastern Kansas nearly to the Nebraska border. Showers were beneficial rather generally over the northern parts of the country and in the middle Atlantic area, but further heavy rains in the Florida Peninsula were detrimental.

Small grains.—During the first decade the cutting of winter wheat with binders had begun north to northern Oklahoma and harvest had extended into the Texas Panhandle. Wheat was ripening in southeastern and southern Kansas, while progress was very good in Nebraska, with the crop heading well. Conditions were still unsatisfactory in the Ohio Valley, with progress and condition spotted, ranging from very poor to very good. The weather continued largely favorable in the Spring Wheat Belt, with the crop looking fine and well stooled and rooted. Oats and other small grains varied widely, especially oats in the Ohio Valley, where much short straw and thin stands were reported.

During the second decade conditions were, in the main, favorable for winter wheat harvest which was progressing as far north as central Illinois, southern Indiana, central Missouri, and southern Kansas. The crop was mostly poor to satisfactory in Ohio, where it was beginning to ripen, while dryness hastened maturity in Indiana. Much spring wheat was beaten down by heavy rains in Iowa, while some suffering from dryness was reported from northern and western South Dakota, but in general the crop did well. Cutting oats was well along in the South, but conditions were variable in many sections.

During the last decade winter wheat harvest progressed northward past the central parts of the Ohio Valley and to north-central Missouri and northern Kansas. Copious rains were very beneficial in Washington and parts of Oregon and good rains in South Dakota materially aided the spring wheat crop, which was heading. Slow growth was reported from some northern parts of the Spring Wheat Belt, but the crop was clean and of good color. Oats were heading very short in the southern Ohio Valley area, while harvest advanced almost as fast as winter wheat in the Southwest.

Corn.—During the first decade the weather was generally too cool for best growth of corn and advance was mostly only fair. Planting was practically completed but considerable replanted corn was not up and the cool weather retarded germination. Growth was good in the Southwest, but, in the Ohio Valley, a good warm rain was badly needed. Cultivation made fair progress, while in Iowa conditions had been favorable for weeds and the state of the crop varied considerably. During the second decade conditions favored cultivating and corn was mostly clean. In Iowa considerable was damaged by rain and hail; advance of the crop ranged from replanted second time to knee-high. Corn made generally good progress where rain was ample, but the crop deteriorated in central and southern Ohio due to the drought. It was satisfactory in parts of the western belt, but in the northwest the crop was somewhat late due to cool weather. In the middle Gulf States and adjacent sections rain was badly needed. During the last decade the reaction to warmer weather was favorable for growth of corn rather generally and the crop made good to excellent progress in most places, while conditions favored cultivation. It was still too dry, however, in parts of the Ohio Valley and eastern Missouri, and the